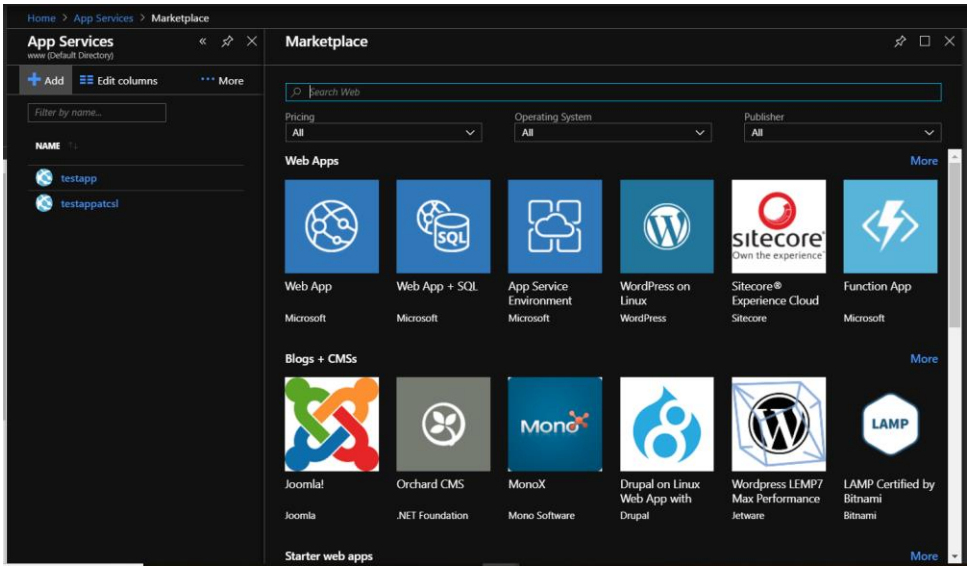
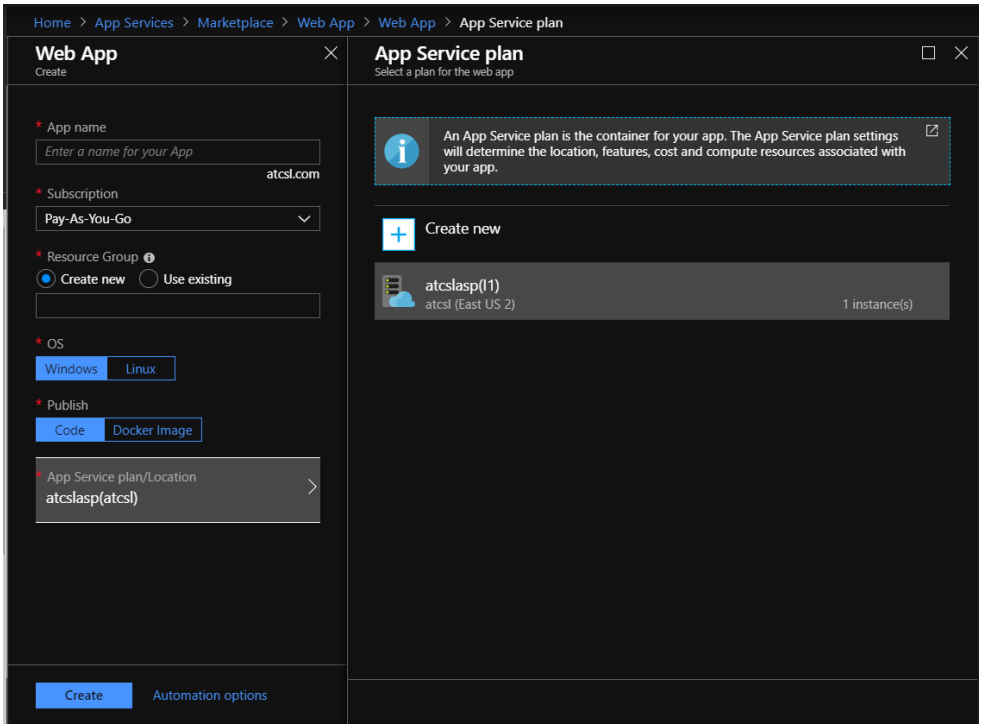
Understanding App Services, App Service Plan and ASE

App Services

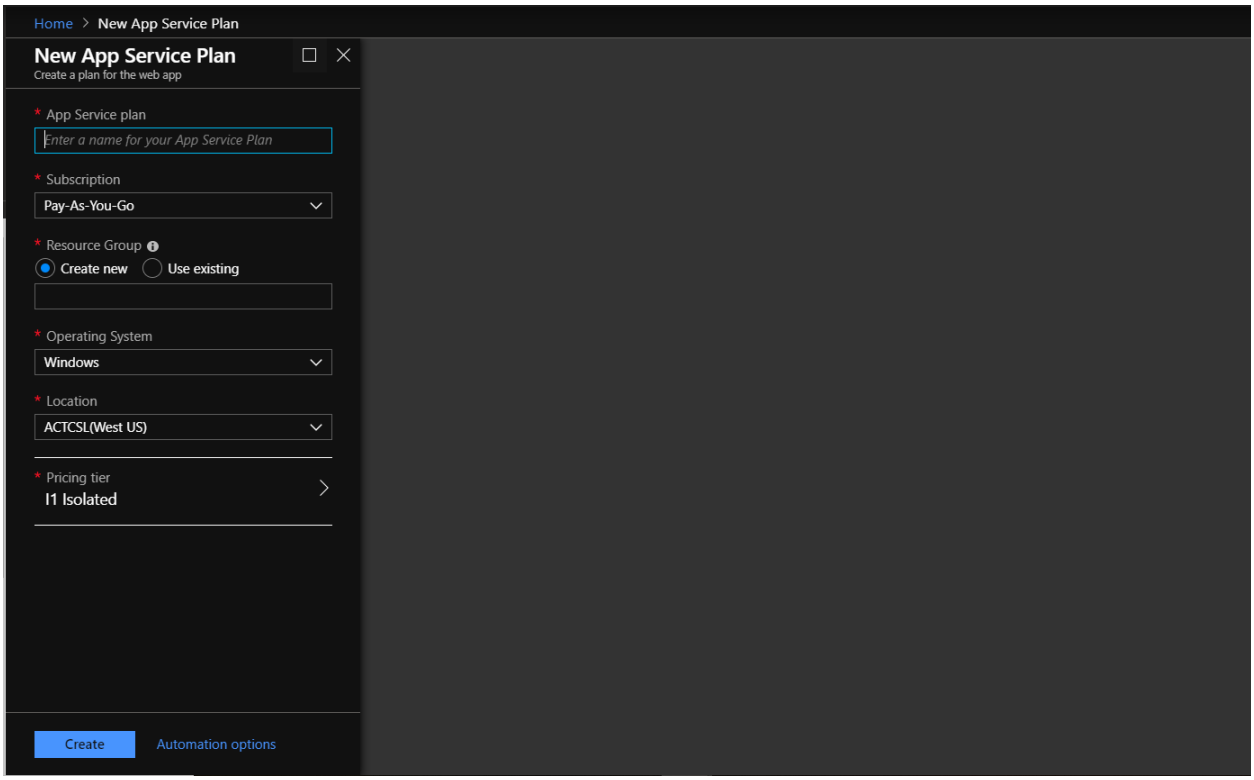
The App Services in Azure is a PAAS offering that integrates Microsoft **Azure** Websites, Mobile **Services**, and other **services** into a single **service**. It is a fully managed platform allowing you to run ad scale your applications effortlessly. You can quickly build powerful web, mobile and API apps using different programming language of your choice. It offers auto-scaling and high availability, and enables automated deployments from multiple sources.





App Service Plan

App Service Plan represents the collection of physical resources for the App Service. An App Service Plan can have multiple web apps. In other words, we can have multiple web apps in an app service plan. We can consider an App Service Plan as a single compute resource, i.e., a Virtual Machine. Therefore, for the billing purposes, if we create more than one web apps in a single App Service Plan, we will be charged only once. On the other hand, there can be adverse effect on the performance of an application if the applications are using the same App Service Plan because they will be competing for the same resources.



Below is a high level comparison of the features as per the pricing tier for the App Service Plan.

SKUs	FREE	SHARED	BASIC	STANDARD	PREMIUM	ISOLATED*
Limits						
Apps	10	100	Unlimited	Unlimited	Unlimited	Unlimited
Disk space	1 GB	1 GB	10 GB	50 GB	250 GB	
Max instances			Up to 3	Up to 10	Up to 20	
SLA			99.95%	99.95%	99.95%	
App Deployment						
Continuous Deployment	Available	Available	Available	Available	Available	Available
Deployment Slots				Available	Available	Available
Development Tools						
Clone App					Available	Available
Site Extensions	Available	Available	Available	Available	Available	Available
Testing in Production				Available	Available	Available
Networking						
Hybrid Connections	Available	Available	Available	Available	Available	Available
VNET Integration				Available	Available	Available
Scale						
Auto-scale				Available	Available	Available
Integrated Load Balancer		Available	Available	Available	Available	Available
Traffic Manager				Available	Available	Available
Backup/Restore				Available	Available	Available
Custom Domains		Available	Available	Available	Available	Available
FTP/FTPS	Available	Available	Available	Available	Available	Available
SSL (IP/SNI)			Available	Available	Available	Available

App Services Environment (ASEv1/ASEv2)

The App Service Environment on the other hand is a deployment of the Azure App Service into your own Azure Virtual Network as per the new capabilities of ASE, and runs on a separate SKU, which is called Isolated SKU. This is the second generation of ASE generally referred to as ASEv2, whereas, the previous version was referred to as ASEv1. This enables your apps to have direct access to corporate resources over Site-to-site or ExpressRoute connections.

ASEs are isolated to running only a single customer's applications and are always deployed into a virtual network. Customers have fine-grained control over inbound and outbound application network traffic. Applications can establish high-speed secure connections over VPNs to on-premises corporate resources.

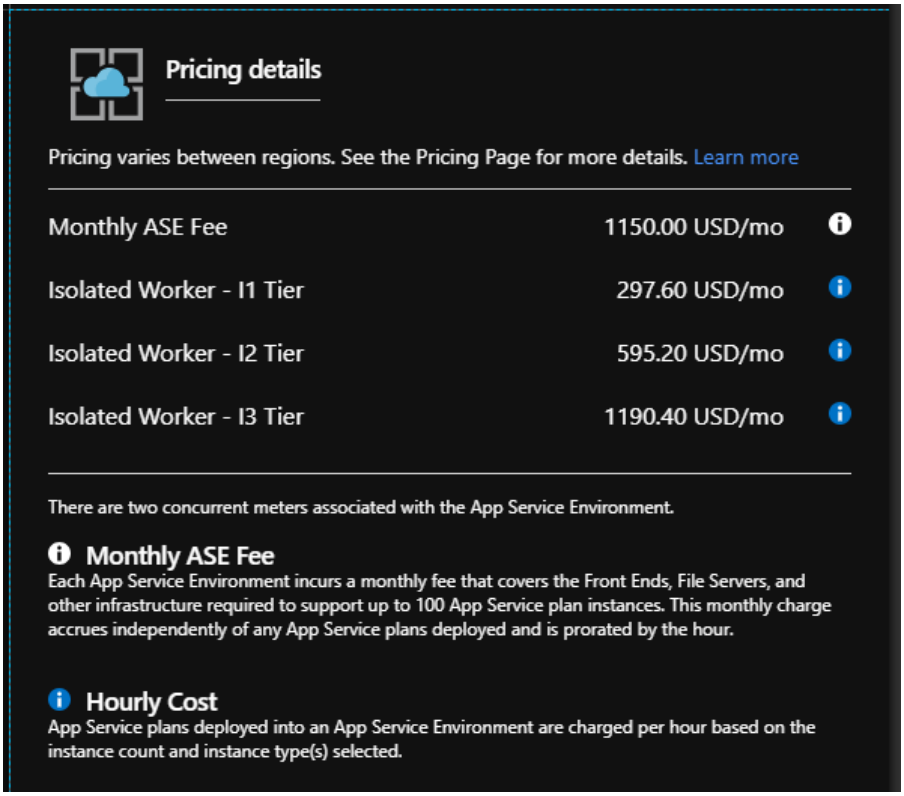
Customers can create multiple ASEs within a single Azure region or across multiple Azure regions. This flexibility makes ASEs ideal for horizontally scaling stateless application tiers in support of high RPS workloads. App Service environments (ASEs) are appropriate for application workloads that require:

- Very high scale.
- Isolation and secure network access.
- High memory utilization.

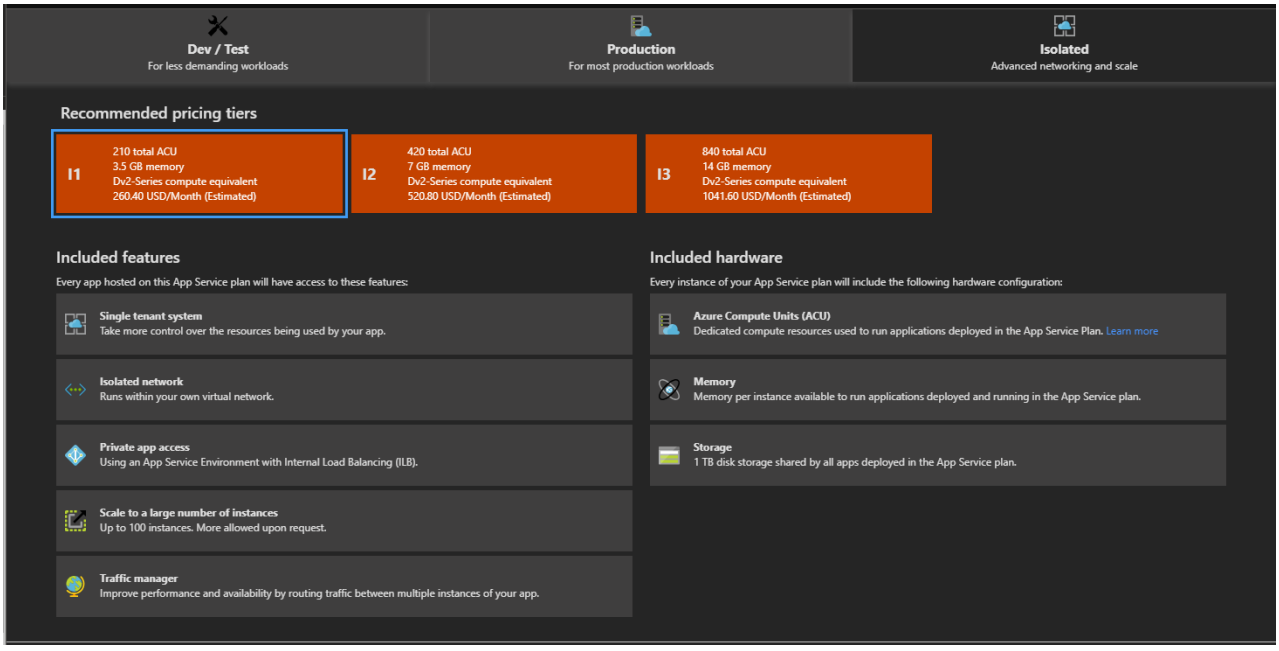
Comparison	
ASE v1	**ASE v2**
Resources are managed manually. This includes the Front Ends, Workers and IP based SSL	No manual intervention is required to scale out front ends and workers. All infrastructure is automatically added as customers scale out their App Service plans
Pay for each allocated vCPU, which includes both front ends and workers that are not hosting and workloads	There is a flat monthly rate for an ASE v2. There is an additional cost per App Services Plan vCPU
App Service Environment can be configured with up to fifty (50) compute resources for exclusive use by a single application	ASE v2 can host 100 App Service Plan instances. The range can span 100 instances in a single App Service plan to 100 single-instance App Service plans, and everything in between
ASE v1 can be deployed on both classic virtual network as well as Resource Manager virtual network	ASE v2 can be deployed only on the Resource Manager Virtual Network

Refer to the below URL for the ASE Pricing details along with the App Services Plan.

https://azure.microsoft.com/en-us/pricing/details/app-service/windows/



Below is the pricing tier availability for the App Service Plan for ASE v2



An ASE can be either internet-facing with a public IP address or internal-facing with only an Azure internal load balancer (ILB) address.

If you deploy the ASE in a virtual network that has a VPN connection to the on-premises network, the apps in the ASE can access the on-premises resources, ad this can be done using either Site-to-site VPN or an Express Route. The best example would be in case you wish to leverage the on-premises databases with the application hosted on ASE.

Summary

An App Service Environment (v2) is a fully isolated and dedicated environment for running Azure App Service apps at high scale securely, which includes Web Apps, Mobile Apps, and API's. It is the deployment of the Azure App Service into a subnet of your virtual network, and also allows your applications to interact with your corporate systems giving you more flexibility.